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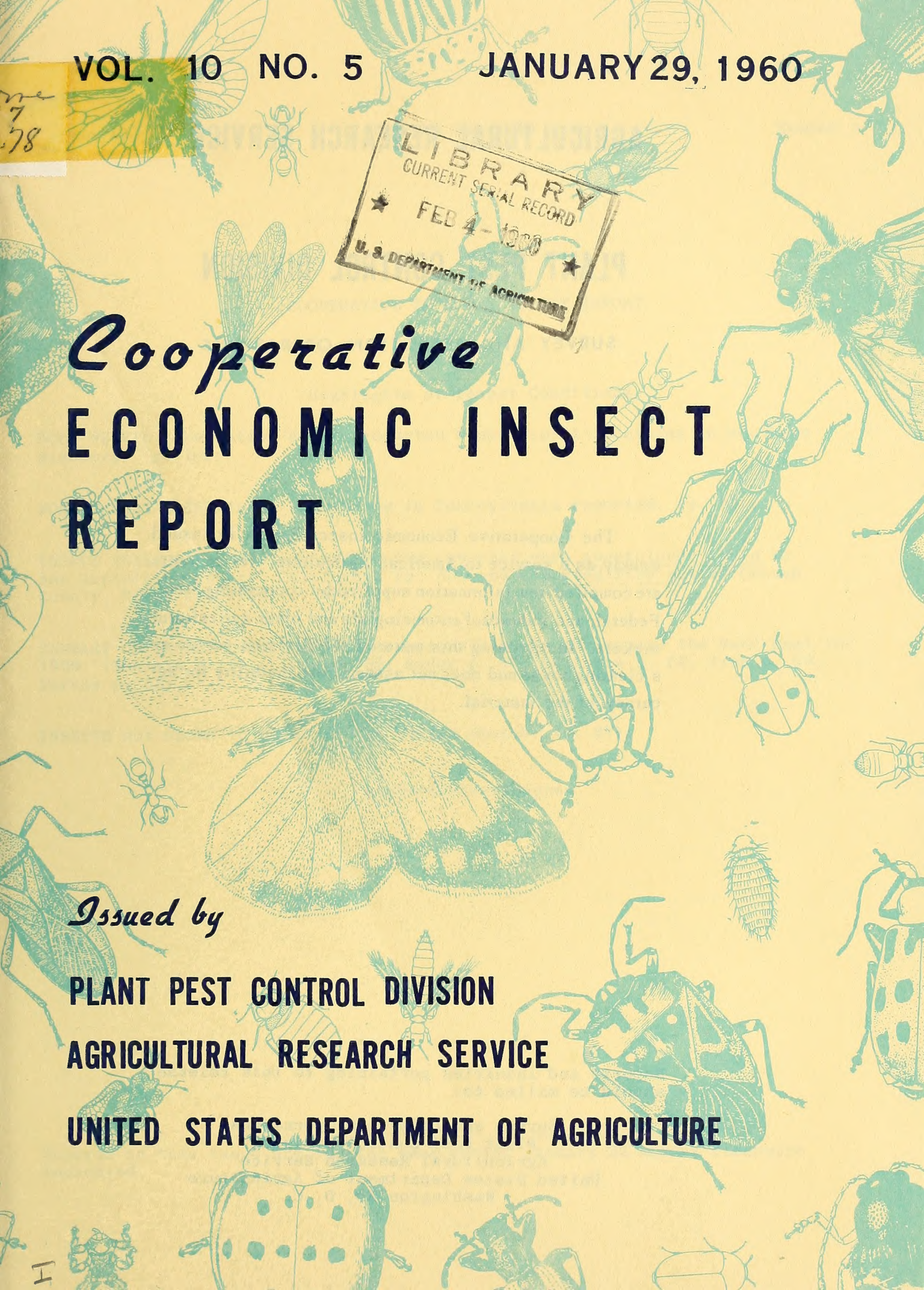

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Division
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Volume 10 January 29, 1960 Number 5

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

BOLL WEEVIL hibernation counts reported from several locations in southern Missouri. (p. 54).

FOREST TENT CATERPILLAR egg survey in Pennsylvania reported. (p. 55).

INSECT DETECTION: New county records reported were sweetclover aphid in San Bernardino County, California (p. 53) and imported fire ant in Craven County, North Carolina (p. 56).

SUMMARY OF INSECT CONDITIONS in some countries in Africa and the Near East for 1959. (Tunisia p. 57, Libya p. 59, Sudan p. 60, Ethiopia p. 62, Iran p. 63, Turkey p. 65).

INSECTS not known to occur in the United States. (p. 67).

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Reports in this issue are for the week ending January 22, unless otherwise indicated.

WEATHER OF THE WEEK ENDING JANUARY 25

Temperatures this week averaged much below normal over all sections of the Nation, except along the Pacific coast, in the upper Great Lakes and over New England. A large mass of very cold arctic air, which moved southward through the Great Plains late last week, dominated the weather over most areas from the Sierras and Cascades eastward to the Great Plains, the Ohio Valley, and the Southeastern States throughout this week. Freezing temperatures and frost extended to the extreme southern parts of the Gulf Coast States, and persisted through this weekend in Florida, where growing crops were damaged in varying degrees, with heavy losses to vegetable acreages in the southern half of the State. Persistent midwinter cold, with minimum temperatures near or below zero, extended from the Ohio Valley to the Texas Panhandle and northern New Mexico northwestward to eastern Oregon and Washington. Temperatures near -20° were reported from Iowa and the Dakotas, and readings of near -30° from Colorado to Montana and Idaho on one or more days. Maximum temperatures over the Great Plains and upper Mississippi Valley from central Kansas and Illinois northward remained below 20° during most of the week. Unseasonably warm weather continued in northern New England for the second straight week.

Precipitation was light over all areas, except along the Pacific coast, in the central Great Lakes, and New England. An offshore storm left rainfall totals up to near 2 inches in the northern portion of the central valley and coastal mountains of California and heavy snow and rain in coastal Oregon and Washington. Tatoosh Island, in extreme northwestern Washington, had 3.69 inches of precipitation during the week. Heavy snow early in the week in the Great Lakes left from 4 to 9 inches in Wisconsin and Michigan. A coastal storm on the 19th brought 8 to 16 inches of snow to northern New England, and frequent light snowfalls extended from western New England southwestward to the Ohio Valley and Michigan throughout the week. Light snow, sleet and rain touched scattered areas of the Southern States, but totals in general were below 1/2 inch. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - ARKANSAS - Found at the rate of 0-10 per foot of row in small grain in Washington County. (Boyer). OKLAHOMA - Counts averaged 9 per linear foot in a field of oats in Choctaw County and populations continued low, less than 5 per linear foot, in most fields of small grain checked in central and south central areas. In one field in Lebanon area, however, populations increased during past month. Counts now average 40 per linear foot. Plants had not been grazed heavily. (VanCleave, Latham, Vinson, Brown, Goin). None noted in fields of small grain checked in Jackson, Beckham, Kiowa, Washita, Caddo and Garfield Counties. (Hatfield, Hudson, Owens).

ENGLISH GRAIN APHID (Macrosiphum granarium) - OKLAHOMA - Present in very limited numbers in 2 fields of small grain checked in Marshall County. Winged and wingless females present in both fields. None noted in the remaining fields checked in south central and central areas. (VanCleave, Latham, Vinson, Brown).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Present in limited numbers, less than 5 per linear foot, in approximately one-fourth of the small grain fields surveyed in central and south central areas. (VanCleave, Latham, Vinson, Brown). None noted in fields checked in southeast, southwest, west central and north central areas. (Goin, Hatfield, Hudson, Owens).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Found in very limited numbers in approximately one-fourth of the fields of small grain checked in central and south central areas. (VanCleave, Latham, Vinson, Brown). None noted in fields checked in southeast, southwest, west central and north central areas. (Goin, Hatfield, Hudson, Owens).

PEA APHID (Macrosiphum pisi) - OKLAHOMA - Counts averaged 15 and 21 per square foot in 2 alfalfa fields in Choctaw County (Goin) and present in light numbers (up to 15 per square foot) in approximately one-half of the alfalfa fields checked in south central and central areas (VanCleave, Latham, Vinson, Brown). Counts averaged 3 per square foot in 3 alfalfa fields in Garfield County. (Owens). ARIZONA - Very light infestations in alfalfa in central and southwestern areas. (Ariz. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARKANSAS - Light, 1-2 per foot in Washington County. (Boyer). OKLAHOMA - None noted in 2 alfalfa fields checked in Choctaw County. (Goin). Present in approximately two-thirds of alfalfa fields checked in central and south central areas. Counts averaged from less than one to 15 per square foot in infested fields. (VanCleave, Latham, Vinson, Brown). Counts ranged 5-10 per square foot (averaged 8 per square foot) in 3 alfalfa fields in Garfield County. (Owens).

SWEETCLOVER APHID (Therioaphis riehmi) - CALIFORNIA - Collected in San Timeteo Creek area of San Bernardino County on white sweetclover by A. E. Gable on December 23, 1959. This is a first record for this county. (Cal. Coop. Rpt.).

FRUIT INSECTS

ORANGE TORTRIX (Argyrotaenia citrana) - CALIFORNIA - Light infestation damaging Meyer lemon in San Anselmo, Marin County. (Cal. Coop. Rpt.).

EUROPEAN FRUIT LECANIUM (Lecanium corni complex) - CALIFORNIA - Light infestation on prune trees in Rutherford area, Napa County. (Cal. Coop. Rpt.).

Citrus Insect Situation in Florida - Mid-January - PURPLE SCALE (Lepidosaphes beckii) activity increased slightly but will remain in the low range during the next month. No high populations are expected. Highest activity is in the Bartow, upper east coast and Indian River districts. FLORIDA RED SCALE (Chrysomphalus aonidum) activity increased slightly; infestations expected to hold near current average level for several weeks. Highest activity is in the Gainesville, Bartow, west coast, Indian River and upper east coast districts. CITRUS RED MITE (Panonychus citri) activity is in an upward trend which will continue into February. Populations are generally below average at present but will soon show increases in most areas. Highest activity is in the Bartow district. CITRUS RUST MITE (Eutetranychus banksi) activity dropped slightly but is expected to increase during the next three weeks. Although most infestations are moderate at present, high populations are building up in many groves, especially in the tree tops. Highest activity is in the west coast, Bartow, upper east coast, Indian River and Ridge districts. (Simanton, Thompson, Johnson (Citrus Experiment Station, Lake Alfred)).

TRUCK CROP INSECTS

BEET ARMYWORM (Spodoptera exigua)*- CALIFORNIA - Causing light damage to cabbage leaves in association with potato aphid (Macrosiphum solanifolii) in the Watsonville area, Santa Cruz County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Infestations decreased slightly in cabbage while increases were noted in broccoli fields in Willacy County. (Deer).

GREEN PEACH APHID (Myzus persicae) - ARIZONA - Total of 15 collected on sticky-board traps during the period January 4-18. (Ariz. Coop. Sur.).

APHIDS - GEORGIA - Light infestations on turnips in Colquitt and Brooks Counties. (Johnson).

DARKLING BEETLES - TEXAS - Undetermined species causing some damage to watermelons in Willacy County. (Deer).

TOBACCO INSECTS

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - GEORGIA - Light infestations in tobacco plant beds in Worth, Colquitt, Brooks, Lowndes and Cook Counties. (Johnson).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - MISSOURI - Examination of surface trash for hibernating weevils was conducted during late November and early December 1959, with the following number of weevils per acre being found at the locations indicated (counties in parenthesis). Malden (Dunklin) - 6,292; Morley (Scott) - 799; Commerce (Scott) - 0; Qulin (Butler) - 315; Neelyville (Butler) - 339. The average number of weevils per acre found in 66 samples was 1,283. A recheck of the north Dunklin County area near Malden during January showed a reduction of the overwintering populations to 2,178 per acre. (Arrendorf).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

PINE ENGRAVERS (Ips spp.) - CALIFORNIA - Causing complete kill of ponderosa pine saplings to saw timber in groups of 8 to 40 in a 60-acre stand in the Big Creek area of the Sierra National Forest. Association of western pine beetle (Dendroctonus brevicomis) has not been established. (G. K. Parks). I. confusus is severe in seedlings to mature ponderosa pines in a 40-acre stand in the Covelo district, Mendocino County. Groups of 3 to 40 trees showing top and complete kill. Damage associated with previous logging causing this epidemic. (W. L. Bradley).

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* Zimmerman, E. C. 1958. Insects of Hawaii, Vol. 7 : 339.

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Remains uncontrolled in 28 spots. Four of these spots have over 100 brood trees, 19 have from 11 to 50 brood trees and the remaining 5 spots have 10 or less brood trees. During 1959, there were 144 spots discovered by aerial reconnaissance, 122 spots ground checked and 116 controlled or being controlled. (Young).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - ARKANSAS - Reported to be laying eggs in December 1959, in the Ozark region of northwest Arkansas. (Warren).

CYPRESS BARK BEETLE (Phloeosinus cupressi) - CALIFORNIA - Infestations of P. cupressi and P. cristatus heavy on Arizona cypress, Cupressus arizonica, in Corte Madera, Marin County. (Cal. Coop. Rpt.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - PENNSYLVANIA - Surveys on January 12-14 revealed egg populations to be widespread and light to moderate on South Mountain below Boiling Springs and in the area around Pine Grove Furnace (Cumberland County), and in eastern Adams County. Light to heavy egg mass populations were located along the southern slope of Piney Ridge, just north of Pine Grove Furnace. Light egg populations were observed near Old Forge, Franklin County. Egg deposition was primarily on scarlet oak. (Dowden, McIntyre, Nelson, Drooz).

FALL CANKERWORM (Alsophila pometaria) - PENNSYLVANIA - Egg masses were common on oak in Cumberland, Adams and Franklin Counties. (Dowden, McIntyre, Nelson, Drooz).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - MARYLAND - Heavy on white pine at Towson, Baltimore County. (U. Md., Ent. Dept.).

GREENHOUSE PESTS - OKLAHOMA - Light to medium infestations of mealybugs, aphids, scale insects and spider mites were noted in older stock in some greenhouses checked in Tulsa County. (Stiles).

A SCALE INSECT (Phenacaspis natalensis) - FLORIDA - Abundant on magnolia at Gainesville, Alachua County; especially on lower leaves of trees valued as ornamentals. (Hetrick).

INSECTS AFFECTING MAN AND ANIMALS

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Counts averaged 20 per animal on mature untreated cows checked in Grandfield area and 21 per head on yearling steers and 14 head checked in Stillwater area. (Kinzer). Counts averaged 15 per animal on 40 head of yearling steers checked in Cleveland County (Frye) and averaged 4 per animal on 23 head of mature cows checked in Jefferson County (Vinson). MARYLAND - Cattle gurbs, probably H. lineatum, were infesting 3 out of 47 bulls at Ellicott City, Howard County. (U. Md., Ent. Dept., Jan 14).

CATTLE LICE - OKLAHOMA - Medium to heavy on approximately 20 percent of 120 head of untreated beef cattle checked in Marshall County. (VanCleave el al.). MARYLAND - Linognathus vituli and Haematopinus eurysternus were light on young bulls at West Friendship, Howard County, on January 14. H. eurysternus was causing some hair loss. (U. Md., Ent. Dept.).

DOG TICKS - NORTH CAROLINA - Undetermined species active in Wayne County. (Farrier, PPC).

STORED-PRODUCT INSECTS

RICE WEEVIL (*Sitophilus oryza*) - OKLAHOMA - Heavy, over 200 per quart, in 400 bushels of stored barley and oats checked on a farm in Marshall County. (VanCleave, et al.)

CADELLE (*Tenebriodes mauritanicus*) - OKLAHOMA - Heavy in 400 bushels of barley stored in a wooden granary on a farm in Lebanon area of Marshall County. (Vinson).

SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*) - OKLAHOMA - Heavy, over 50 per quart, in 400 bushels of stored barley and oats checked on a farm in Marshall County. (VanCleave el al.).

BENEFICIAL INSECTS

PARASITES AND PREDATORS - OKLAHOMA - None noted in alfalfa and small grain fields checked in State. (VanCleave et al.).

MISCELLANEOUS INSECTS

AN OTITID (*Chrysomyza demandata*) - OKLAHOMA - Larval infestations in silage causing some concern in Jackson and Grady Counties. (Howell).

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - NORTH CAROLINA - Light infestation reported near Harlowe in Craven County; first record in the county. (Farrier, PPC).

FURNITURE CARPET BEETLE (*Anthrenus flavipes*) - NORTH CAROLINA - Severe infestation in unknown source in Wake County. (Scott, Farrier).

SPIDER BEETLES - TEXAS - Undetermined species annoying homeowners in Grimes and Houston Counties. (Texas Coop. Rpt.).

LIGHT TRAP COLLECTIONS

	Pseudaletia unipuncta	*Feltia subterranea*	*Prodenia ornithog.*	*Agrotis ypsilon*	*Laphygma frugiperda*
FLORIDA					
Quincy 1/11		1	4		
LOUISIANA					
Franklin 1/15-21		1	2		
Baton Rouge 1/15-21	4	2	16	3	
TEXAS					
Brownsville* 1/14-15	3	4	1	1	20

*Additional collections at Brownsville during same reporting period were 206 *Loxostege similalis* and 1 *Heliothis zea*.

SUMMARY OF INSECT CONDITIONS IN SOME COUNTRIES OF AFRICA AND THE NEAR EAST

1959

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The summaries of insect conditions that follow have been submitted in the 1959 Annual Report of the Regional Insect Control Project with headquarters in Beirut, Lebanon. The first attempt to present information on the more important insect pests of the Near East in the Cooperative Economic Insect Report was made in 1955 following a request from the survey committee of the Entomological Society of America. For the benefit of CEIR readers, it may be well to point out that the Regional Insect Control Project is a cooperative program operated by the Plant Pest Control Division, ARS, in accordance with an agreement signed on February 18, 1954, between the U. S. Department of Agriculture and the International Cooperation Administration. At the present time a staff of 10 entomologists are stationed in 6 countries working with the personnel of the U. S. Operations Missions and Ministries of Agriculture.

The work of these entomologists is designed to fulfill commitments to the host countries with respect to the evaluation of locust problems, the demonstration of control practices, development of insect surveys and the training of nationals in methods, procedures and the organization of applied entomology and plant quarantine work. During the last few years the Ministries of Agriculture have strengthened their Plant Protection organizations. Special attention has been given to survey and plant quarantines. Consequently an increased effort has been made to collect, identify and record the insect species of economic importance. First-hand information on foreign pests should serve to familiarize the entomologist and the pesticide industry of this country with the major pests in the areas reported on. It should lead to better understanding and mutual interest in entomological problems common to the United States and other nations. (E. J. Hambleton).

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Summary of Insect Conditions in Tunisia

By E. R. Millet

Cereal Insects: HESSIAN FLY (Phytophaga destructor) infestations were light in wheat in the north. Lack of rain and high temperatures to December had not been favorable for the fly. DURRA STALK BORER (Sesamia cretica) (Det. H. W. Capps) caused severe damage to young corn in plots at the El Bathan Agricultural School. SENN PEST (Eurygaster integriceps) was light at Le Sers and Souk El Arba. There has been no heavy damage from this pest in Tunisia now since 1934. DESERT LOCUST (Schistocerca gregaria) appeared in swarms in the south in December 1958 and January 1959. Although this predicted a heavy season for 1959, it did not materialize, and there was little crop loss. The season ended in July.

Citrus Insects: MEDITERRANEAN FRUIT FLY (Ceratitis capitata), although reported attacking 80 percent of the earliest ripening varieties of oranges in late September in Cap Bon, infested only 3 percent in November. However, in the orange area between Sousse and Sfax, the infestation in November was 20 percent. SCALE INSECTS, notably DICTYOSPERMUM SCALE (Chrysomphalus dictyospermi), CALIFORNIA RED SCALE (Aonidiella aurantii), FLORIDA RED SCALE (Chrysomphalus aonidum) and PURPLE SCALE (Lepidosaphes beckii), were heavy in the Cap Bon and La Soukra areas, 50 percent of the groves being attacked; BLACK SCALE (Saissetia oleae) was also notable on citrus at Soliman, occurring in 60 percent of the groves. (Det. H. Morrison). CITRUS BUD MITE (Aceria sheldoni) (Det. E. W. Baker) was moderate in all lemon groves in the Hammamet area. Other MITES in association with citrus bud mite in the same area were Brevipalpus phoenicis, Tydeus sp., Typhlodromus sp. and Tarsonemus sp. (Det. E. W. Baker). A MITE (Tetranychus cinnabarinus) (Det. E. W. Baker) was also found moderately on lemons in the Hammamet area.

Deciduous Fruit Insects: CODLING MOTH (Carpocapsa pomonella) (Det. H. W. Capps) appeared in early May at Tunis on apples. Damage was heavy in 1959, with 80 percent damage at Rades. LEOPARD MOTH (Zeuzera pyrina) (Det. H. W. Capps) caused heavy damage to apple trees at Rades. Practically 100 percent of trees, five years or older, were attacked. MEDITERRANEAN FRUIT FLY damaged 80 percent of late apricots, 70 percent of late peaches, pomegranates and was also found in pears. Larvae of Mediterranean fruit fly were recently reported as occurring in the fruit or berry of a jujuba bush (Zizyphus lotus), but this has not yet been confirmed. GREEN PEACH APHID (Myzus persicae) (Det. L. M. Russell) was heavy on peaches at Sidi Bou Rouis and ROSY APPLE APHID (Anuraphis rosae)(Det. L. M. Russell)was moderate on apples at Sidi Bou Rouis and heavy on pears at Le Sers. PEACH TWIG BORER (Anarsia lineatella) (Det. H. W. Capps) was moderate on peaches at Sidi Tabet. A CAPER FRUIT FLY (Capparimyia savastani) (Det. R. H. Foote) was collected in capers at Sidi Amor. A PTEROMALID (Pseudocatolaccus sp.) (Det. B. D. Burks), possibly parasitic on caper and olive fly larvae, was also collected at Sidi Amor. A PHYCITID (Myelois ceratoniae), which is important in dates in Tunisia, was very light in 1959; resulting in the best date crop in many years. A MITE (Tetranychus sp.) attacked almonds at Sidi Tabet and an unidentified LACEBUG was heavy in the almond grove at Sidi Tabet.

Olive Insects: A 20 percent OLIVE FLY (Dacus oleae) infestation occurred in irrigated groves at Hammamet in the north, but infestations were much lighter in nonirrigated groves in the hotter and dryer south around Sfax. BLACK SCALE (Saissetia oleae) (Det. H. Morrison) was exceptionally heavy in olive groves at Hammamet and Nabeur. An OLIVE PSYLLID (Euphyllura olivana) (Det. L. M. Russell) was light in the olive groves at the Sidi Bou Rouis Agricultural School and in the olive groves in the south around Sfax. An OLIVE SHOT-HOLE BORER or BARK BEETLE (Hylesinus oleiperda) (Det. W. H. Anderson) was found severe on three to eight-year-old olive trees at Le Sers and a heavy infestation was observed on older unattended olive trees near Sidi Tabet. OLEANDER SCALE (Aspidiotus hederae) was reported heavy on olive fruit on a farm in the center below Kairouan. A BRACONID (Opius concolor) (Det. C. F. W. Muesebeck), which is parasitic on the olive fly, was collected at Ariana.

Truck Crop Insects: NEMATODES were heavy and caused 50 percent damage to tomatoes in fields and parcels where they occurred in Cap Bon. TOMATO RUSSET MITE (Vasates lycopersici) was somewhat less abundant on tomato plantings in Cap Bon this summer. Better control practices can probably account for this. TWELVE-SPOTTED MELON BEETLE (Epilachna chrysomelina) (Det. E. A. Chapin) was found heavy on experimental plantings of melons at Kairouan. A very heavy infestation of MOLE CRICKET (Gryllotalpa gryllotalpa) (Det. A. B. Gurney) was found damaging fruit tree cuttings and vegetables in nursery plots at Thibar. A LEPIDOPTEROUS larva (Lepidechidna acharnias) only caused about 5 percent damage to artichokes this year; the low damage being attributed to the use of new plants and rotation of fields. A WEEVIL, identified as Lixus algirus, was found causing heavy damage to peas.

Household and Miscellaneous Insects: HOUSE FLY (Musca domestica) was not quite so heavy in Tunis this year as in the past year, but still occurred quite heavily in the villages. MOSQUITOES were also less bothersome in Tunis during the summer; one species collected at Hammamet was identified as Culiseta longiareolata (Det. A. Stone). BROWN-BANDED ROACH (Supella supellectilium) was numerous in one house in Tunis. SILVERFISH (Lepisma saccharina) was also observed. A beneficial COCCINELLID (Coccinella 7-punctata)(Det. E. A. Chapin) was recorded occurring in Tunisia during 1959. This coccinellid is particularly beneficial against aphids and has been found quite freely in orange groves in the Cap Bon area.

Summary of Insect Conditions in Libya

By George E. Cavin

DESERT LOCUST (*Schistocerca gregaria*) was the major agricultural pest in 1959. Controls began in January and extended to July on swarms invading Libya from Algeria and Tunisia. Beginning in October swarms from Chad and Niger territories invaded the oases of the Fezzan causing complete destruction of millet and winter vegetable crops in the Ghat vicinity. These swarms continued northward and by the end of November were widespread along the Mediterranean coast from Tobruck on the east to the Tunisian border.

Cereal and Forage Insects: DURRA STALK BORER (*Sesamia cretica*) caused extensive damage to corn and sorghum fields in certain localities. The attack began in May and by October practically 100 percent loss of corn had occurred at Wadi Caam. EGYPTIAN COTTONWORM (*Prodenia litura*) caused extensive damage to alfalfa throughout Tripolitania and widespread control operations were undertaken. A MOLE CRICKET (*Brachytrupes megacephalus*) caused slight damage to grain and peanuts throughout Tripolitania. APHIDS (*Rhopalosiphum maidis*, *R. padi* and *Toxoptera graminum*) were common throughout the grain-producing area from February to May. A SNAIL (*Theba pisana*) caused slight damage to grain along the coastal belt.

Fruit Insects: MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) was the most important fruit pest in Libya. The attack began in April on apricots, in May on peaches, July on pears and September on citrus. Very little control was undertaken and heavy losses occurred to all 4 crops. A severe attack on apples and pears by CODLING MOTH (*Carpocapsa pomonella*) occurred in the Suk el Guma, Taguira and Sedi Mesri areas of Tripolitania during April and May. GREEN PEACH APHID (*Myzus persicae*) caused slight damage to peaches. WOOLLY APPLE APHID (*Eriosoma lanigerum*) was numerous on apples in some parts of Tripolitania during April and May. CITRUS MEALYBUG (*Pseudococcus citri*) was prevalent on grapes in the Tripoli area during June, July and August. Citrus was heavily infested in localized areas by SCALE INSECTS (*Parlatoria pergandii*, *P. zizyphus*, *Icerya purchasi* and *Chrysomphalus dictyospermi*). A heavy infestation of TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) occurred on citrus in the Tripoli area during February to May and again in November. BLACK CITRUS APHID (*Toxoptera aurantii*) caused slight injury to citrus. OLIVE FLY (*Dacus oleae*) heavily attacked olives in irrigated areas during June and July. On nonirrigated olive plantings, attack was unusually late and did not begin until October along the coastal belt. A BARK BEETLE (*Phloeotribus scarabaeoides*) was prevalent during May on olives near Ain Zara and a heavy infestation of a SCALE (*Pollinia pollini*) occurred throughout the year.

Vegetable Insects:SPINY BOLLWORM (*Earias insulana*) attacked okra in Wadi Caam. This was the first record of this insect in Tripolitania. EGYPTIAN COTTONWORM (*Prodenia litura*) caused extensive damage to cabbage, cauliflower and other vegetables. On cabbage, CABBAGE BUTTERFLY (*Pieris rapae*) was widespread and in large numbers throughout the year. A CABBAGE WEBWORM (*Hellula undalis*) caused some damage at Wadi Caam. CABBAGE APHID (*Brevicoryne brassicae*) was common in April and May. A BOLLWORM (*Heliothis armigera*) caused damage to tomatoes in some places. BEET ARMYWORM (*Spodoptera exigua*)* caused extensive damage to potatoes during October.

Ornamental Insects: SWEETPOTATO or COTTON WHITEFLY (*Bemisia tabaci*) was heavy on poinsettia, lantana, hibiscus and chrysanthemum during September and October.

Tobacco Insects: A NEMATODE (*Meloidogyne incognita*) caused slight damage. POTATO TUBERWORM (*Gnorimoschema operculella*) caused severe damage beginning in May.

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*Zimmerman, E. C., 1958. Insects of Hawaii, Vol. 7:339

Stored-product Insects: The following insects were common in most storehouses in Libya: Sitophilus granarius, S. oryza, Oryzaephilus surinamensis, Tenebroides mauritanicus, Tenebrio molitor, Trogoderma granarium, Tribolium confusum, T. castaneum, Rhyzopertha dominica, Anagasta kuhniella, Bruchus pisorum, B. rufimanus and Acanthoscelides obtectus.

Summary of Insect Conditions in the Republic of the Sudan

By A. F. Kaatz in cooperation with
Sayed Beshir el Shafie, Sayed Lloyd
George, Sayed Gaafar Yahia, and
other members of the Plant Protection
Division, Sudan Ministry of Agriculture

DESERT LOCUST (Schistocerca gregaria) invaded the summer breeding ranges across the entire width of the Sudan mostly by a west-to-east movement, although some swarms came from the east. Beginning in May and continuing through most of October approximately 216,000 square miles were infested. Most of the locusts were killed by ground control units in the early stages and most fledgling swarms were successfully controlled before they could do damage or fly away. Some fledglings escaped during the last few weeks of the season. No serious damage to cultivated crops occurred. In the winter breeding range, along the Red Sea coast, infestation started in October 1958 and continued until mid-January 1959. Approximately 150 different hatches were successfully controlled by ground control units. Another infestation has started in this area beginning in October and control activities are in progress. TREE LOCUST (Anacridium moestum) appeared in large numbers in December 1958 and continued for several months in 1959. This species also appeared again in September and during the latter part of the year was scattered throughout southern Darfur and Kordofan Provinces in large numbers, attacking gum arabic trees. Controls were initiated. AFRICAN MIGRATORY LOCUST (Locusta migratoria migratorioides) appeared in the central rainlands again in 1959 and attacked the durra crops in the Fung and Gedaref districts. Control action is in progress. SUDAN PLAGUE GRASSHOPPER (Aiolopus savignyi) appeared in many durra fields in the Gedaref district, where slight damage occurred before they were controlled. Other species of GRASSHOPPERS were present in cotton, durra and castor crops, but were unimportant.

Cotton Insects (other than locusts): COTTON JASSID (Empoasca lybica) is the most important cotton pest in the Gezira and White Nile River region having infested cotton fields from Khartoum to Malakal. Fields have been sprayed at least once and some twice to control this pest. SWEETPOTATO or COTTON WHITEFLY (Bemisia tabaci) is the second most important cotton pest due to use of DDT, which has killed the jassid parasites. This species infested approximately the same area as the cotton jassid in 1959. COTTON APHID (Aphis gossypii) attacks in the Fung, Sennar, southern Gezira and Kosti regions were moderate during 1959. Many large fields were sprayed for control. A COTTON THRIPS (Hercothrips fumipennis) attacked the cotton in the seedling stage, causing approximately 25 percent damage to 2,500 acres of cotton in the Semeih Cotton Scheme. Other areas seriously infested were in the Sennar and Fung districts. A FLEA BEETLE (Podagrica puncticollis) was a serious pest of seedling cotton in the Gezira and White Nile regions. A COTTON STAINER (Dysdercus sp.) was a serious pest of American type cotton in the Nuba Mountain region only. Attacks by a BOLLWORM (Heliothis armigera) were sporadic and caused some shedding of buds, but no major damage occurred. No controls were applied. EGYPTIAN BOLLWORM (Earias insulana) infestation was very light during December 1958 and January 1959. PINK BOLLWORM (Pectinophora gossypiella) infestation in 1959 was approximately 5 percent in affected areas. This pest is kept under control by cultural, preventative methods. A RED BOLLWORM (Diparopsis watersi), present only in the Gash and Nuba Mountain regions, was very moderate in 1959 due to cultural methods of control. EGYPTIAN COTTONWORM (Prodenia litura), although present in the Sennar region, is not very serious as the larvae do not survive the heat in the Sudan;

but it attacks vegetables in some favorable areas. Other cotton pests were present but not serious or of economic importance in the Sudan during 1959.

Durra Insects (other than locusts): DURRA STALK BORER (*Sesamia cretica*), usually present in northern Sudan, was light this season. DURRA APHID (*Aphis sorghi*) attacks were very light in the Fung, Sennar and Kosti districts. SORGHUM MIDGE (*Contarinia sorghicola*) was very serious in the Gezira region this year. No controls known. A PENTATOMID (*Agonoscelis pubescens*) was serious in the Dali region of the Fung district and in the Gedaref district and was present in the Gezira, Sennar, Singha and Rufa districts. Annual control campaigns in the dry season only are possible. BEET ARMYWORM (*Spodoptera exigua*) was present in many districts but not serious. ANTS and TERMITES, where not much water is present, were found in durra, peanuts and coffee trees.

Castor Bean Insects: Castor beans are a new crop to the Sudan. A CATERPILLAR (*Achaea catella*) completely destroyed about 160 acres in the Tokar region. A LEAFHOPPER species was present in several areas.

Citrus Insects: Attacks by TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*), a MEALYBUG (*Phenacoccus hirsutus*), STRIPED MEALYBUG (*Ferrisia virgata*), as well as several scale insect species and a FRUIT FLY (*Pardalapsis* sp.) were light this year.

Date Insects: Attack of TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) on leaves and DATE MITE (*Oligonychus pratensis*) on fruit and a SCALE INSECT were light this year. ALMOND MOTH (*Ephestia cautella*) attacks were light during 1959.

Stored-product Insects: KHAPRA BEETLE (*Trogoderma granarium*) was a serious pest in Port Sudan storehouses and was found in parts of Gedaref, Fung districts and areas in the south. LESSER GRAIN BORER (*Rhyzopertha dominica*), the most important pest of stored grain, was common in all dry areas of the Sudan and attacks were heavy. RICE MOTH (*Corcyra cephalonica*) attacks were light this year. ANGOUMOIS GRAIN MOTH (*Sitotroga cerealella*) was present in many regions but attacks were light. CONFUSED FLOUR BEETLE (*Tribolium confusum*) and RED FLOUR BEETLE (*T. castaneum*) were present in very large numbers and presented a real serious problem in all places where products were stored. A TENEBRIONID (*Latheticus oryzae*) is almost as common as *Tribolium* species. RICE WEEVIL (*Sitophilus oryza*), SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*), *Laemophloeus* sp. and CADELLE (*Tenebroides mauritanicus*) were also common in many parts. PSOCIDS were found in the south where grain is stored in pits. About 22 other insect pests of stored products were found from time to time but were not important.

Insects Affecting Man and Animals: An outbreak of yellow fever during November occurred among the population in the Fung district and was probably transmitted by *Aedes aegypti*. Malaria is present in the Sudan and two of the vectors are *Anopheles gambiae* and *A. funestus*. At least 65 species of TICKS, a number of them disease carriers, are present and are in the following genera: *Argas*, *Ornithodoros*, *Amblyomma*, *Aponomma*, *Boophilus*, *Dermacentor*, *Haemaphysalis*, *Hyalomma*, *Ixodes*, *Margaropus* and *Rhipicephalus*. The last-named genus accounts for about one-third of the ticks in the Republic. Other arthropods found in the area include BLACK FLIES (*Simuliidae*); TABANIDS; SAND FLIES (*Phlebotomus* spp.); TSETSE FLIES (*Glossina palpalis fuscipes* and *G. morsitans*); HIPPOBOSCIDS which annoy camels, dogs, cattle and horses; FLIES; FLEAS and LICE.

Summary of Insect Conditions In Ethiopia

By W. C. Kurtz

Cereal and Forage Insects: DESERT LOCUST (*Schistocerca gregaria*) infestations were light in Eritrea, but heavy in Tigre, Wollo and Harrar Provinces. A heavy, late influx of fledglings appeared, probably from escapees and invasions from Sudan and Saudi Arabia. A STALK BORER, possibly *Sesamia* sp., was generally distributed on corn and sorghum. An ARMYWORM, known locally as "tempsh", caused widespread damage to teff.

Fruit and Nut Insects: COTTONY-CUSHION SCALE (*Icerya purchasi*) was common on citrus. MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) caused heavy damage to citrus and guava. SPIDER MITES occurred on peaches and quince. Several types of SCALE INSECTS were also present on citrus.

Truck Crop Insects: APHIDS were prevalent on tomatoes, cabbage and lettuce. CUTWORMS were reported affecting tomatoes at Shashamani. BLISTER BEETLE nymphs caused considerable damage to onions at Jimma and FLEA BEETLES were common, being found on beans and corn. Damage to tomatoes by a WHITEFLY was light.

Cotton Insects: SPINY BOLLWORM (*Earias insulana*) was found on cotton at Wonji Sugar Estate and caused considerable damage in the Awash area. PINK BOLLWORM (*Pectinophora gossypiella*) was common but the degree of infestation was unknown. LOCUSTS probably caused some damage to cotton. A heavy population of MITES was noticed at Wonji Sugar Estate.

Coffee Insects: A light infestation of a LEAF MINER was noticed at Jimma and Shashamani and was reported elsewhere. APHIDS were common; infestation was light at Jimma and heavy in Asha Tafari area. A PENTATOMID (*Antestia* sp.) was reported causing considerable damage and a BROWN SCALE was heavy around Asha Tafari. A GREEN SCALE was heavy on young trees at Shashamani and reported heavy elsewhere.

Stored-product Insects: The following pests were found in a shipment of sorghum at Massawa: *Sitophilus granarius*, *S. oryza*, *Tribolium castaneum*, *Cryptolestes pusillus*, *Anagasta kuhniella* and GRAIN MITES.

Insects Affecting Man and Animals: FLEAS, FLIES, BED BUGS, COCKROACHES and MOSQUITOES were abundant. Fleas and cockroaches are reported difficult to control. Malaria is common but the government of Ethiopia has started a malaria eradication program with the help of the World Health Organization and the International Cooperation Administration. LICE and MITES were common on livestock and TSETSE FLIES were quite common, generally.

Miscellaneous Insects: TERMITES were common and caused considerable damage to buildings in Addis. A WHITEFLY occurred on a variety of flowers. SPIDER MITES were also common on flowers.

Summary of Insect Conditions in Iran

By R. Q. Gardenhire and R. L. Linkfield

Cereal and Forage Insects: DESERT LOCUST (*Schistocerca gregaria*) infestations were unusual in that invasions of swarms, apparently from Africa, began in late December 1958 and second-generation invasions from Iraq continued until July. A westward moving swarm was reported in extreme southeastern Iran in November. Heaviest infestations occurred in western and southwestern Iran, whereas southern and southeastern areas had much lighter infestations than in 1958. Though intensive control measures were reported on an aggregate of 1,485,000 acres, only limited crop damage occurred. MOROCCAN LOCUST (*Dociostaurus moroccanus*) infestations assumed a much different geographical pattern from recent years, with the heaviest infestations in northeastern Iran where crop damage occurred. A heavy buildup of population also occurred in northern and northwestern Iran and extensive control is expected to be required in 1960. Populations in southern areas were greatly reduced from previous years and practically no crop damage occurred. Aggregate acreage reported to have been treated totaled 1,406,000 acres. NATIVE GRASSHOPPERS (*Calliptamus* sp. and *Dociostaurus* spp.) were general in distribution and infestations were about normal. An aggregate total of 380,000 acres was reported to have been treated. SENN PEST (*Eurygaster integriceps*) infestations were the heaviest in several years and up to 50 percent damage was observed in some areas of western Iran. Total destruction of the wheat crop was reported in one small area. Acreage reported to have been treated totaled 64,000. DURRA STEM BORER (*Sesamia cretica*) is still the most important pest of sugarcane in Khuzistan and threatens the success of the 10,000-acre sugarcane plantation being established in that area. Infestations on corn and grain sorghum were also heavy in many areas. ALFALFA WEEVIL (*Hypera postica*) completely destroyed the first cutting of alfalfa at Heyderabad, and continues to be the most serious pest of alfalfa throughout Iran. SPOTTED ALFALFA APHID (*Therioaphis maculata*) was generally scarce due to natural enemies, but has now been found in all alfalfa-growing areas of Iran. A PYRAUSTID (*Nomophila noctuella*) (Det. H. W. Capps) attacked young alfalfa in the Saveh area. CEREAL LEAF MINER (*Syringopais temperatella*) became increasingly severe in southwestern and southern Iran and much damage to wheat and barley occurred. CORN LEAF APHID (*Rhopalosiphum maidis*) was very heavy on corn in several areas and attacked barley to a lesser degree.

Truck Crop Insects: BEET ARMYWORM (*Spodoptera exigua*) caused severe damage to sugar beets in many areas, even where some control measures were applied. A SUGAR-BEET CROWN BORER (*Gnorimoschema ocellatella*) severely damaged sugar beets in most areas. SPINACH LEAF MINER (*Pegomya hyoscyami*) infestation of sugar beets was minor. CABBAGE APHID (*Brevicoryne brassicae*) heavily infested cabbage, causing deformation and stunting of heads. THRIPS caused severe damage to onions at Karaj and SPIDER MITES were observed on eggplant, causing yellowing and defoliation. An AGROMYZID (*Phytobia* sp.) (Det. R. H. Foote) was very heavy on watermelon leaves at Varamin and BLACK SCALE (*Saissetia oleae*) was extremely abundant on the stems of eggplant in the Rudbar area.

Deciduous Fruit Insects: A SCALE INSECT (*Lepidosaphes malicola*) (Det. H. Morrison) was heavy on apricot trees at Kangavar and BLACK SCALE was very heavy on olive trees in scattered areas at Rudbar. CODLING MOTH (*Carpocapsa pomonella*) and ERMINE MOTHS (*Hyponomeuta* spp.) were the two most common pests of deciduous fruits and were generally distributed over most of Iran. Damage was frequently quite severe. PEAR LACE BUG (*Stephanitis pyri*) was heavy on apple and pear trees, causing chlorosis of leaves in most areas where control measures were not conducted. A LEAF GALL MITE (*Eriophyes* sp., near *pyri*) (Det. H. H Kiefer) damaged plum leaves at Sardrud village near Tabriz.

Citrus Insects: CITRUS RUST MITE (*Phyllocoptruta oleivora*) caused severe damage to the citrus crop due to improper timing of controls. This condition was general throughout the Caspian area. DICTYOSPERMUM SCALE (*Chrysomphalus dictyospermi*) continued to be the most common of the citrus scale insects present throughout the Caspian area and COTTONY-CUSHION SCALE (*Icerya purchasi*) was occasionally heavy in limited areas of the citrus-growing belt along the Caspian. PURPLE SCALE (*Lepidosaphes beckii*), CHAFF SCALE (*Parlatoria pergandii*), BROWN SOFT SCALE (*Coccus hesperidum*), YELLOW SCALE (*Aonidiella citrina*) and CALIFORNIA RED SCALE (*Aonidiella aurantii*) were also present on citrus in the Caspian region.

Forest, Ornamental and Shade Tree Insects: AN APHID (*Chaitophorus leucomelas*) (Det. L. M. Russell) was very heavy on *Populus alba* at Borujerd and another APHID (*Chaitophorus populi*) (Det. L. M. Russell) was heavy on *Populus nigra* at Borujerd. SCALE INSECTS - *Chionaspis salicis* (Det. H. Morrison) infested willow trees at Sanandaj and *C. parastigma* (Det. H. Morrison) heavily infested woodland oak trees at Shahabad. A SAWFLY (*Pristiphora* sp.) (Det. B. D. Burks) was found feeding on poplar tree leaves at Varamin and a WHITEFLY (*Aleyrodes cotesii*) (Det. L. M. Russell) were very heavy on rose at Borujerd.

Miscellaneous Insects: A PIGEON TICK (*Argas reflexus*) (Det. F. C. Bishopp) was present on the walls of a local residence in Kermanshah. MITES - *Brevipalpus obovatus* (Det. E. W. Baker) caused some damage to tea plants at Ramsar on the Caspian Sea and *Aceria tristriatus* (Det. H. H. Kiefer) caused light damage to walnut leaves in the Tabriz area.

Beneficial Insects: The great value of insect control in Iran by biological means has become increasingly apparent since the advent of more extensive application of pesticides. Several pests that were previously of no economic importance have become major pests due to the destruction of natural enemies. Through the assistance of United States taxonomists, information is being gathered on the indigenous parasites and predators of Iran. SENN PEST PARASITE (*Microphanurus semistriatus*) rearing was greatly reduced due to low populations of hibernating senn pest in the Isfahan area. Only 14,500,000 parasites were laboratory reared. Parasites reared from various insect hosts were as follows: An ENCYRTID PARASITE (*Blastothrix sericea*) (Det. B. D. Burks), from *Eulecanium coryli* on quince; a BRACONID (*Apanteles glomeratus*) (Det. C. F. W. Muesebeck), from a cabbage butterfly of the genus *Pieris*; an ICHNEUMONID (*Campoplex* sp.) (Det. L. M. Walkley) and A BRACONID (*Rogas* sp.) (Det. C. F. W. Muesebeck), from the beet armyworm; an ICHNEUMONID (*Campoplex multicinctus*) (Det. L. M. Walkley), from *Hyponomeuta* sp.; a BRACONID (*Chelonus contractus*) (Det. C. F. W. Muesebeck), from *Gnorimoschema ocellatella*; an ICHNEUMONID (*Exidechthis canescens*) (Det. L. M. Walkley), from *Ephestia* sp.; a BRACONID (*Bracon hebetor*) (Det. C. F. W. Muesebeck), from *Ephestia* sp.; a EULOPHID (*Coccophagus lycimnia*) (Det. B. D. Burks), from *Coccus hesperidum*; EULOPHIDS - *Aspidiotiphagus citrinus* (Det. B. D. Burks), from *Aonidiella citrina*, and *Aphytis proclia* (Det. B. D. Burks), from *Aonidiella orientalis* on Arabian jasmine; and a PTEROMALID (*Halticoptera aenea*) (Det. B. D. Burks), from *Phytobia* sp. from melon leaves. Parasites found feeding on insect hosts were a SYRPHID (*Metasyrphus corollae*) (Det. W. W. Wirth), on cabbage aphid, and a CALLIPHORID PARASITE (*Stomorhina lunata*) (Det. C. W. Sabrosky), on desert locust egg pods. In addition, an ORIBATULID MITE (*Liebstadia* sp.) (Det. E. W. Baker), was found on *Lepidosaphes beckii* and *Parlatoria zizyphus*.

Summary of Insect Conditions in Turkey

By George B. Riley

Cereal and Forage Insects: DESERT LOCUST (Schistocerca gregaria) was of no importance in Turkey during 1959. However, MOROCCAN LOCUST (Dociostaurus moroccanus), ITALIAN GRASSHOPPER (Calliptamus italicus) and a NATIVE GRASSHOPPER (Arcyptera labiata) did warrant control measures. Damage from LOCUSTS and GRASSHOPPERS was minor throughout the country. SENN PEST (Eurygaster integriceps) was widespread through the wheat-growing regions, especially in the east. Depredations by this pest were reduced considerably in the Gaziantep-Hatay area by hymenopterous parasites. PENTATOMIDS (Aelia spp.) were much less abundant than in previous years but occurred in localized infestations sometimes as great as 1000-1500 per square meter. They were confined mostly to the Anatolian Plateau and effective control greatly reduced losses. CEREAL LEAF MINER (Syringopais temperatella) was very abundant in southern Anatolia. Unfavorable weather hampered control efforts and considerable loss of wheat yields resulted. Infestations of CUTWORMS (Agrotis spp., et al.), a SCARABAEID (Anisoplia sp.) and CARABID BEETLES (Zabrus spp.) necessitated control on several thousand acres of cereals.

Cotton Insects: Primary pests of cotton have been a BOLLWORM (Heliothis armigera), SPINY BOLLWORM (Earias insulana), PINK BOLLWORM (Pectinophora gossypiella) and SPIDER MITES (Tetranychus spp.). ONION THRIPS (Thrips tabaci), LEAF FEEDING CATERPILLARS and APHIDS were widespread and caused some damage to cotton.

Grape Insects: VINE MOTH (Lobesia botrana), an ARCTIID CATERPILLAR (Arctia villica) and Theresimima ampelophaga caused considerable damage to grapes. GRAPE PHYLLOXERA (Phylloxera vitifoliae) has been reported but no damage attributable to this insect was observed.

Deciduous Fruit Insects: Infestations of CODLING MOTH (Carpocapsa pomonella) made it difficult to find a "worm-free" apple in Turkey. Lesser damage was apparent on pear and quince. ERMINE MOTHS (Hyponomeuta spp.) caused considerable defoliation of apple and pear, particularly in the Black Sea area. PEAR LACE BUG (Stephanitis pyri), APHIDS (Aphis spp.), a MITE (Cenopalpus pulcher) and a FRUIT TREE MITE (Bryobia rubrioculus) were widespread and of serious concern on apples and pears. PLUM FRUIT MOTH (Laspeyresia funebrana), MITES (Tetranychus telarius, T. atlanticus and T. vienennsis) and various LEAFHOPPERS were serious pests of prunes, apricots and peaches. At least two shipments of fresh peaches were rejected by foreign markets because of infestations of ORIENTAL FRUIT MOTH (Grapholitha molesta) and Grapholitha spp. A CHERRY FRUIT FLY (Rhagoletis sp.) caused serious loss of cherry yields. However, infested fruits which ripened were sold. A SCALE INSECT (Pseudaulacaspis pentagona) resulted in considerable reduction in foodstuff for silkworm culture as well as loss of fruits.

Citrus Fruit Insects: MEDITERRANEAN FRUIT FLY (Ceratitis capitata) has caused increased loss of sweet oranges in the Adana-Mersin area along the Mediterranean Sea. CITRUS BUD MITE (Aceria sheldoni), CITRUS RUST MITE (Phyllocoptruta oleivora), CITRUS RED MITE (Panonychus citri) and other SPIDER MITES have been prevalent and caused considerable loss of yield. CHINESE WAX SCALE (Ceroplastes sinensis), HEMISPHERICAL SCALE (Saissetia hemisphaerica), DICTYOSPERMUM SCALE (Chrysomphalus dictyospermi), PURPLE SCALE (Lepidosaphes beckii), Parlatoria sp. and other SCALE INSECTS were the most obvious and apparently detrimental group found on citrus in the Mediterranean and Black Sea regions.

Olive Insects: The coastal olive-producing areas have been beset by severe drought this year which has accentuated insect and disease damage. In the coastal regions, the OLIVE FRUIT FLY (Dacus oleae) appeared at least a month later than last year due to cool weather. Infestations were widespread, with infested fruit counts averaging 20-30 percent throughout the area. OLIVE MOTH (Prays oleellus) occurred in considerable infestations but damage was limited by effective control. These two species, olive fruit fly and olive moth, were considered the most severe pests of olive this year in Turkey. However, the following appeared to be quite widespread and caused considerable damage to trees as well as weakening and loss of crop: A PSYLLID (*Euphyllura olivina*), OLIVE SCALE (*Parlatoria oleae*), BLACK SCALE (*Saissetia oleae*), *Hylesinus oleiperda*, *Filippia oleae* and an OLIVE WEEVIL (*Rhynchites* sp.).

Nut Insects: Hazelnuts are an important export crop in Turkey, produced principally along the coast of the Black Sea. Production and quality of this crop are perennially reduced greatly by the depredations of the HAZELNUT BORER (*Curculio nucum*). Pistachio is grown principally in the Gaziantep-Euphrates plateau area of the east. Export potential of this crop in 1959 is estimated at $15,000,000. Considerable loss is suffered by pistachio growers, due to the attack of the PISTACHIO LEAFHOPPER (*Idiocerus stali*), SCALE INSECTS (*Ceroplastes rusci*, *Lepidosaphes pistaciae*, et al.) and MITES (*Tetranychus* spp.).

Forest Insects: A severe, extremely widespread infestation of PINE PROCESSIONARY MOTH (*Thaumetopea pityocampa*) occurred along the coastal regions, attacking *Pinus brutia*. This infestation has already caused the loss of many millions of board feet of saw timber but has the potential of destroying many thousands of acres of one of Turkey's most important forest species.

Insects Affecting Man: There was a rather severe infestation of CRAB LOUSE (*Phthirus pubis*) on an oil-well-drilling crew. Control was necessary. BED BUG (*Cimex lectularius*) caused much annoyance in some homes.

Beneficial Insects: SCELIONID EGG PARASITES (*Microphanurus semistriatus*, *M. vassillieur* and *Microphanurus* sp., apparently a new, undescribed species) were found attacking eggs of senn pest.

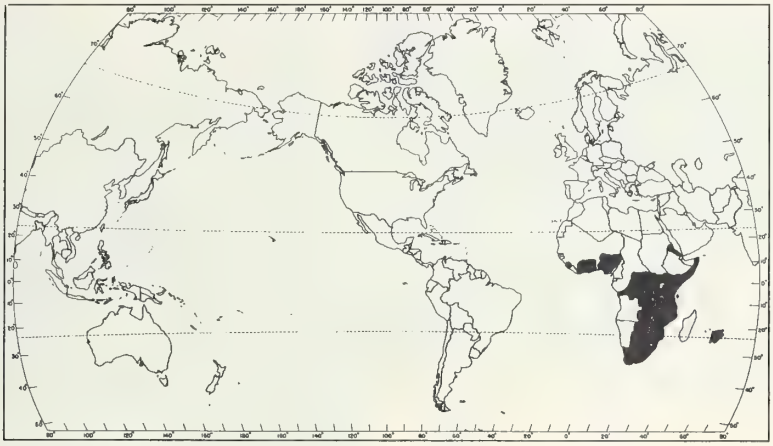
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

FALSE CODLING MOTH* (Cryptophlebia leucotreta Meyr.)

Economic Importance: This olethreutid is widely distributed in Africa south of of the twentieth parallel where it is a pest of fruits of many plants, especially citrus and cotton. It has been reported as one of the principal plant pests of Uganda and the Rhodesias. Infestations in neglected Rhodesia citrus orchards may run as high as 70 percent, but observations in orchards of eastern Transvaal over a period of several years showed infestations of about 5 percent in navel oranges and 2 percent in Valencias. In Eritrea, it causes almost as much fruit-fall as the Mediterranean fruit fly. At times the insect is an important pest of cotton in Uganda and southern Belgian Congo, causing damage to partly-grown bolls. Living larvae of this insect have been intercepted at U. S. ports of entry on several occasions in grapefruit, oranges and tangerines.

Distribution: Africa (South Africa, the Rhodesias, Kenya, Tanganyika, Uganda, Zanzibar, Nigeria, Sierra Leone, Italian Somaliland, Nyasaland, Ethiopia (Eritrea), Ivory Coast, Begian Congo, Ghana, Togoland, Mozambique and Mauritius Island.

Hosts: Attacks fruits of many plants including sorghum, orange, grapefruit, tangerine, walnut, cotton, okra, corn, olive, avocado, guava, plum, peach, apricot, castorbean, oak and litchee.



General Distribution of Cryptophlebia leucotreta

Life History and Habits: Cryptophlebia leucotreta resembles the codling moth (Carpocapsa pomonella) in appearance, habits and type of injury; however, it does not attack apple, pear and quince and is reported to cause more premature fruit-drop than C. pomonella. Under South African conditions the life history is as follows: The female, which flies at night, lays about 100 eggs, usually 3-8 per citrus fruit, but only 1-2 larvae survive. Larvae hatch in 4-8 days in summer and 8-14 in winter and enter fruits. The young larvae gnaw through the rind, making burrows about 1 mm. in diameter. Frass thrown out by the insect makes the entrance conspicuous. In oranges the rind surrounding the entrance becomes yellowish to dark brown. The larvae feed for 25-33 days in summer and 35-67 in winter, leave the fruit, then spin cocoons on the soil surface (pupation may occur on the plants in other areas according to reports). The life cycle requires from 45-60 days in summer and 68-100 in winter. There are about 6 generations for a year in this area. Breeding occurs in navel oranges from November to late June and in Valencias from June onward.

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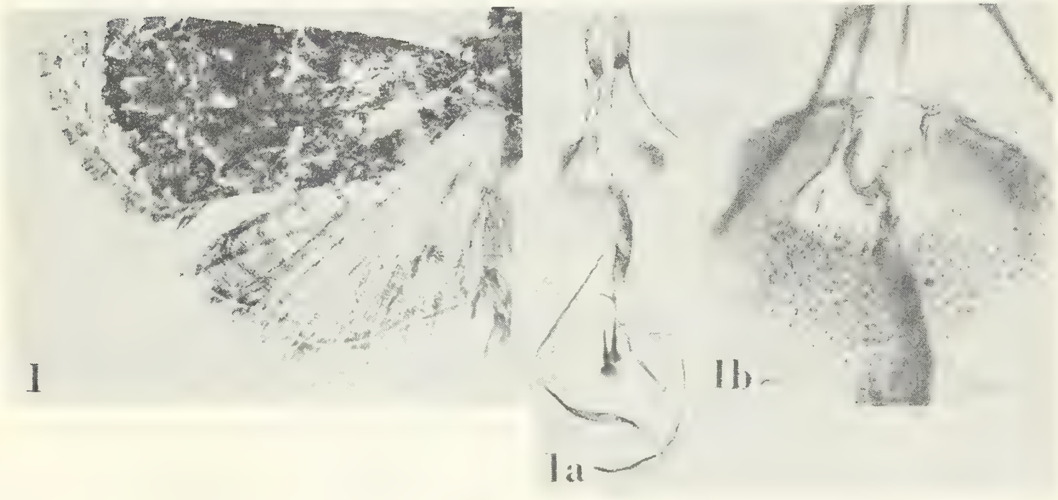
*Also called citrus codling moth.
(Olethreutidae, Lepidoptera)

Description: *Cryptophlebia leucotreta* resembles *Carpocapsa pomonella* in all stages. ADULT brown, thorax with double posterior crest. Forewings elongate-triangular with prominent dorsal scale projections toward base and beyond middle, which are light brown mixed with white. There is a semioval dark-reddish patch mixed with black and center with white. Hindwings generally lighter grayish-brown but darker toward outer margins. The male has a larger pale-grayish genital tuft, a dense brush of grayish-white hairs on hind legs, and a deep semicircular pocket in the hindwings. EGG translucent white, almost 1 mm. long, flat, oval-shaped with flange around it. LARVA at first yellowish-white with black head, body marked with black spots, each with a short hair. Mature larva about 18 mm. in length, pink above, yellow below. PUPA about 7 mm. long, yellow becoming dark brown, enclosed in white silken cocoon which is normally obscured by adhering particles of soil. (Prepared in Survey and Detection Operations in cooperation with other ARS Agencies and the U. S. National Museum.). CEIR 10(5):1-29-60.



Wings and Female Genitalia of *Cryptophlebia leucotreta*

Figures (except map): Wings and female genitalia from Clarke, J. F. G. 1958. Catalogue of the Type Specimens of Microlepidoptera in the British Museum (Natural History) described by Edward Meyrick. Vol. 3, 600 pp., London.

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